Figures
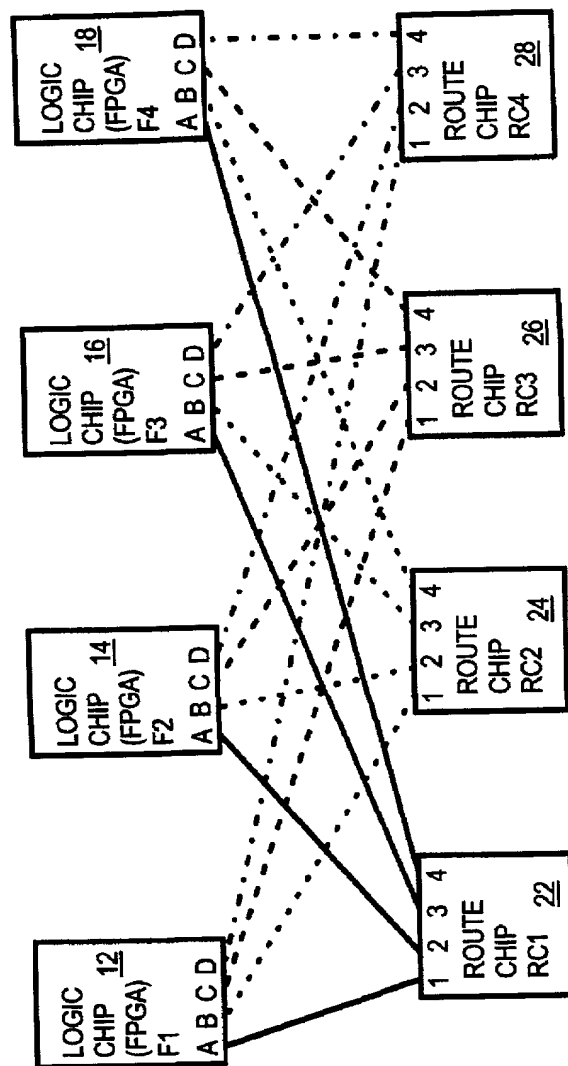
FIG. 1

PRIOR ART

**FIG. 2**

| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA - F1 | RC1 | RC2 | RC3 | RC4 |
| FPGA - F2 | RC1 | RC2 | RC3 | RC4 |
| FPGA - F3 | RC1 | RC2 | RC3 | RC4 |
| FPGA - F4 | RC1 | RC2 | RC3 | RC4 |

**FIG. 3**

| | PIN A | PIN B | PIN C | PIN D | | |
|---|---|---|---|---|---|---|
| FPGA - F1 | | X2-RC2 | X3-RC3 | | X5 | X6 |
| FPGA - F2 | X1-RC1 | | | X4-RC4 | X5 | X6 |
| FPGA - F3 | X1-RC1 | X2-RC2 | X3-RC3 | X4-RC4 | | |
| FPGA - F4 | | | | | | |

FIG. 4

## FIG. 5A

| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA - F1 | RC1 | RC2 | RC3 | RC4 |
| FPGA - F2 | RC1 | RC2 | RC3 | RC4 |
| FPGA - F3 | RC1 | RC2 | RC3 | RC4 |
| FPGA - F4 | RC1 | RC2 | RC3 | RC4 |

## FIG. 5B

| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA - F1 | RC5 | | | RC6 |
| FPGA - F2 | | RC5 | RC6 | |
| FPGA - F3 | | RC6 | RC5 | |
| FPGA - F4 | | | | RC5 |
| | RC6 | | | |

## FIG. 6

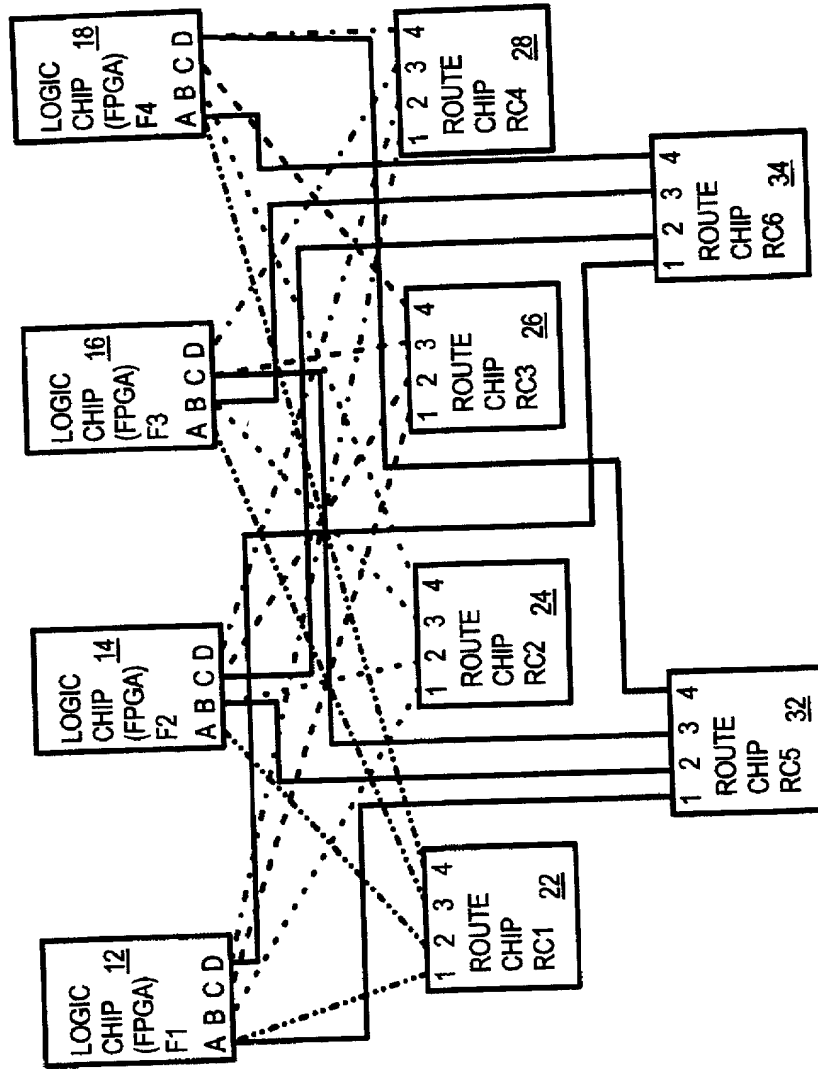| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA - F1 | X5 | X2-RC2 | X3-RC3 | X6 |
| FPGA - F2 | X1-RC1 | X5 | X6 | X4-RC4 |
| FPGA - F3 | X1-RC1 | X2-RC2 | X3-RC3 | X4-RC4 |
| FPGA - F4 | | | | |

## FIG. 7

| | PIN A | PIN B | PIN C | PIN D | |
|---|---|---|---|---|---|
| FPGA-F1 | X1 | X2 | X5 | X4 | |
| FPGA-F2 | X1 | | X5 | X6 | X7 |
| FPGA-F3 | X3 | X2 | | X6 | X7 |
| FPGA-F4 | X3 | | | X4 | |

X1: F1-F2
X2: F1-F3
X3: F3-F4
X4: F1-F4
X5: F1-F2
X6: F2-F3
X7: F2-F3

## FIG. 8

| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA-F1 | X1 | X2 | X5 | X4 |
| FPGA-F2 | X1 | X7 | X5 | X6 |
| FPGA-F3 | X3 | X2 | X7 | X6 |
| FPGA-F4 | X3 | | | X4 |

FIG. 9

PRIOR ART

| | PIN A | PIN B | PIN C | PIN D | |
|---|---|---|---|---|---|
| FPGA - F1 | | X4 | X3 | X6 | X7 |
| FPGA - F2 | X2 | | X3 | X1 | X7 |
| FPGA - F3 | X2 | X4 | X5 | X1 | |
| FPGA - F4 | | | X5 | X6 | |

X1: F2-F3
X2: F2-F3
X3: F1-F2
X4: F1-F3
X5: F3-F4
X6: F1-F4
X7: F1-F2

FIG. 10

| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA - F1 | X7 | X4 | X3 | X6 |
| FPGA - F2 | X2 | X7 | X3 | X1 |
| FPGA - F3 | X2 | X4 | X5 | X1 |
| FPGA - F4 | | | X5 | X6 |

**FIG. 11**

PRIOR ART

| | PIN A | PIN B | PIN C | PIN D | X6 |
|---|---|---|---|---|---|
| FPGA - F1 | | X2 | X1 | X3 | X6 |
| FPGA - F2 | | X4 | | | |
| FPGA - F3 | X5 | X4 | X1 | X3 | |
| FPGA - F4 | X5 | X2 | | | X6 |

| ORIGINAL | SHUFFLED |
|---|---|
| X1: F1-F3 | X1: F1-F3 |
| X2: F1-F4 | X2: F1-F4 |
| X3: F2-F3 | X3: F1-F3 |
| X4: F3-F4 | X4: F2-F3 |
| X5: F2-F3 | X5: F3-F4 |
| X6: F1-F4 | X6: F1-F4 |

**FIG. 12**

| | PIN A | PIN B | PIN C | PIN D |
|---|---|---|---|---|
| FPGA - F1 | X6 | X2 | X1 | X3 |
| FPGA - F2 | | X4 | | |
| FPGA - F3 | X5 | X4 | X1 | X3 |
| FPGA - F4 | X5 | X2 | | X6 |

## FIG. 13

### PRIOR ART

| | A | B | C | D | E | F | G | H | |
|---|---|---|---|---|---|---|---|---|---|
| FPGA - F1 | | | | | | | | | |
| FPGA - F2 | | | | | X3 | X6 | X7 | X8 | X9,10,11,12 |
| FPGA - F3 | | | | | | | | | |
| FPGA - F4 | X1 | X2 | X5 | X4 | | | | | |
| FPGA - F5 | X1 | X2 | X5 | X4 | X3 | X6 | X7 | X8 | X9,10,11,12 |
| FPGA - F6 | | | | | | | | | |
| FPGA - F7 | | | | | | | | | |
| FPGA - F8 | | | | | | | | | |

X1: F4-F5
X2: F4-F5
X3: F2-F5
X4: F4-F5
X5: F4-F5
X6: F2-F5
X7: F2-F5
X8: F2-F5
X9: F2-F4
X10: F2-F4
X11: F2-F4
X12: F2-F4

## FIG. 14

X1: F4-F5
X2: F4-F5
X3: F2-F5
X4: F4-F5
X5: F4-F5
X6: F2-F5
X7: F2-F5
X8: F2-F5
X9: F2-F4
X10: F2-F4
X11: F2-F4
X12: F2-F4

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| FPGA-F1 | | | | | | | | |
| FPGA-F2 | X7 | X9 | X10 | X3 | X6 | X11 | X12 | X8 |
| FPGA-F3 | | | | | | | | |
| FPGA-F4 | X10 | X2 | X4 | X9 | X12 | X5 | X1 X7 | X11 |
| FPGA-F5 | X7 | X2 | X4 | X3 | X6 | X5 | X1 | X8 |
| FPGA-F6 | | | | | | | | |
| FPGA-F7 | | | | | | | | |
| FPGA-F8 | | | | | | | | |

# FIG. 15

| | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 | R16 |
| --- | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
| FPGA-F1 | R17 | | | R18 | R19 | | | R20 | R21 | | | R22 | R23 | | | R24 |
| FPGA-F2 | | | | | | | | | | | | | | | | |
| FPGA-F3 | | | | | | | | | | | | | | | | |
| FPGA-F4 | R18 | | | R17 | R20 | | | R19 | R22 | | | R21 | R24 | | | R23 |
| FPGA-F5 | R17 | | | R18 | R19 | | | R20 | R21 | | | R22 | R23 | | | R24 |
| FPGA-F6 | | | | | | | | | | | | | | | | |
| FPGA-F7 | | | | | | | | | | | | | | | | |
| FPGA-F8 | R18 | | | R17 | R20 | | | R19 | R22 | | | R21 | R24 | | | R23 |
| FPGA-F9 | R17 | | | R18 | R19 | | | R20 | R21 | | | R22 | R23 | | | R24 |
| FPGA-F10 | | | | | | | | | | | | | | | | |
| FPGA-F11 | | | | | | | | | | | | | | | | |
| FPGA-F12 | R18 | | | R17 | R20 | | | R19 | R22 | | | R21 | R24 | | | R23 |
| FPGA-F13 | R17 | | | R18 | R19 | | | R20 | R21 | | | R22 | R23 | | | R24 |
| FPGA-F14 | | | | | | | | | | | | | | | | |
| FPGA-F15 | | | | | | | | | | | | | | | | |
| FPGA-F16 | R18 | | | R17 | R20 | | | R19 | R22 | | | R21 | R24 | | | R23 |